

WHAT IS CLAIMED IS:

*Sub A* 1. An orderwire controller which controls orderwire circuits to provide maintenance people with voice communication facilities, comprising:

a plurality of mixing means for mixing orderwire signals together; and

combination control means for controlling combinations of the orderwire signals to be mixed.

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2. The orderwire controller according to claim 1, further comprising digital code conversion means for performing signal conversion between an A-law coded or Mu-law coded orderwire signal and a linear coded digital voice signal.

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3. The orderwire controller according to claim 1, wherein said plurality of mixing means add up the orderwire signals in a digital fashion.

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4. The orderwire controller according to claim 1, wherein said plurality of mixing means mix the orderwire signals sent from network elements in at least one ring network.

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5. The orderwire controller according to claim 4, wherein said combination control means controls

the combinations in such a way that the orderwire signals produced in each ring network will be closed within said each ring network.

5           6.           The orderwire controller according to claim 4, wherein said combination control means controls the combinations in such a way that the orderwire signals produced in two ring networks will be shared by said two ring networks.

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*SUB A<sup>1</sup>* 7.           An orderwire control system which controls orderwire circuits to provide maintenance people with voice communication facilities, comprising:

15           (a)           a plurality of ring networks in which a plurality of nodes are interconnected in a ring topology; and

          (b)           an orderwire controller comprising:

          a plurality of mixing means for mixing orderwire signals together, and

20           combination control means for controlling combinations of the orderwire signals to be mixed.

8.           The orderwire control system according to claim 7, wherein said combination control means controls  
25 the combinations in such a way that the orderwire signals produced in each ring network will be closed within said each ring network.

9. The orderwire control system according to claim 7, wherein said combination control means controls the combinations in such a way that the orderwire signals produced in two ring networks will be shared by said two ring networks.